Apple® II

AppleColor™ RGB Monitor Owner's Guide

Apple IIgs

Apple®

AppleColor™ RGB Monitor Owner's Guide

APPLE COMPUTER, INC.

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Contents

Radio and television interference iv

AppleColor™ RGB Monitor Owner's Guide 1

Getting started 2
Setting up your system 2
Connecting the AppleColor RGB Monitor 3
Turning the monitor on 5
Adjusting the monitor 6
Changing the viewing angle 8
Using and caring for your monitor 9
- Working tips 9
- Things to avoid 9
- Protecting your monitor from theft 10
- Cleaning the monitor 10

Service and support 11
Appendix: AppleColor RGB Monitor specifications 12

Radio and television interference

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple's instructions—it may cause interference with radio and television reception.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J, Part 15, of FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation, especially if a "rabbit-ear" television antenna is used. (A rabbit-ear antenna is the telescoping-rod type usually found on television receivers.)

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer or its peripheral devices. To further isolate the problem, disconnect the peripheral devices and their input/output (I/O) cables one at a time. If the interference stops, it was caused by either the peripheral device or the I/O cable. These devices usually require shielded I/O cables. For Apple peripheral devices, you can obtain the proper **shielded cable** from your authorized Apple dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

A **shielded cable** uses a metallic wrap around the wires to reduce the potential effects of radio-frequency interference.

Important This product was FCC-certified under test conditions that included use of shielded cables and connectors between system components. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radio, television, and other electronic devices.

If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit than the television or radio. (That is, make certain the computer and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with a coaxial cable lead-in between the antenna and television.

If necessary, consult your authorized Apple dealer or an experienced radio/television technician for additional suggestions.

AppleColor™ RGB Monitor Owner's Guide

The AppleColor™ RGB Monitor is the ideal companion for your Apple computer in both design and usability. Among its features are:

- a high-contrast screen
- graphics capability
- high-quality display in either 40-column or 80-column widths
- full RGB color capability
- simultaneous display of color graphics and text
- an easy-to-clean screen and cabinet

RGB stands for *Red Green Blue*, the three primary colors that your monitor uses to create color images on the screen.

The AppleColor RGB Monitor is easy to set up and adapt to your working habits and environment. You can change the brightness and contrast of the display to suit your preferences. You can also adjust the viewing angle with the built-in Height-Adjustment bar.

To get the best results from your monitor, take a few minutes to read this manual. Follow the instructions carefully.

Getting started

Here's an overview of the topics you'll find in this manual:

- setting up your system
- connecting the monitor to your Apple computer and to a power outlet
- turning the monitor on
- adjusting the monitor
- changing the viewing angle

You'll also find some tips on using and caring for the monitor, notes on service and support, and an appendix that provides technical specifications for the AppleColor RGB Monitor.

Setting up your system

When considering where to put your Apple computer system, keep in mind that the AppleColor RGB Monitor requires its own power source. It does not receive any power from the computer. This means that you need at least two electrical outlets near your system—three if you have a printer. Many people prefer to plug their computer equipment into a single power strip equipped with a surge protector. The single strip is convenient, and the surge protector keeps your equipment from being damaged by sudden increases in voltage. See your authorized Apple dealer for more information.

Important Never plug your computer into a wall socket that you can turn off with a wall switch. Someone may switch off the lights and with them the computer—you could lose any data not saved on disk.

Choose a sturdy desk or table to work on. Don't set up your Apple computer system on a card table or other surface that could be tipped or knocked over easily.

Connecting the AppleColor RGB Monitor

Before you connect the AppleColor RGB Monitor, make sure that your Apple computer is turned off and that you have

- your AppleColor RGB Monitor
- a video cable
- a power cord (separate for 220/240-volt systems)

Important This product was FCC-certified under test conditions that included use of **shielded cables** and connectors between system components. It is important that you use shielded cables and connectors to reduce the possibility of causing interference to radio, television, and other electronic devices.

A **shielded cable** has a metallic wrap around the wires to reduce the potential effects of radio-frequency interference.

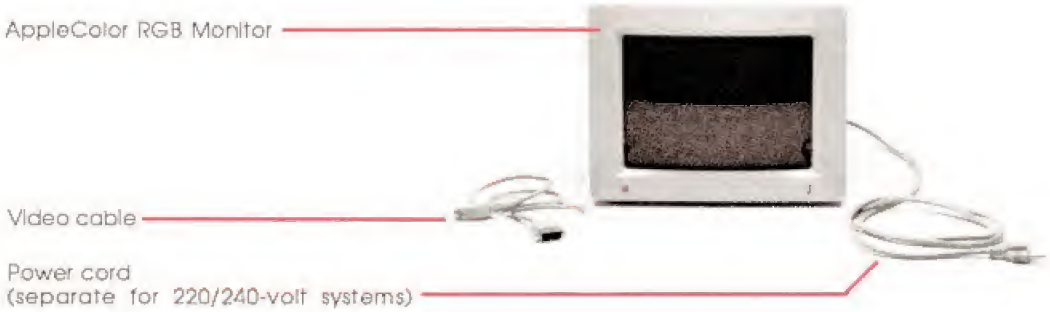


Figure 1

Follow these steps to connect the monitor to its power source and to your Apple computer:

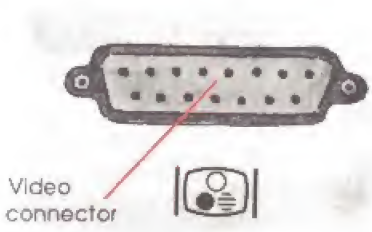


Figure 2

2. Connect one end of the video cable to the monitor's video connector. It's on the left side of the back panel, marked with an icon. (See Figure 2.) Both ends of the video cable are the same, so it doesn't matter which end you connect.
3. Connect the other end of the cable to the computer's RGB Monitor connector. (See Figure 3.) Some models of Apple computers have the same video RGB monitor icon on the back panel. If yours does not and you can't find the RGB Monitor connector, see your owner's manual.
4. Plug the monitor power cord into a grounded outlet.

Warning This equipment is intended to be electrically grounded. Your AppleColor RGB Monitor is equipped with a three-wire grounding plug—a plug that has a third (grounding) pin. This plug will fit only a grounding-type AC outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact a licensed electrician to replace the outlet with a properly grounded outlet. Do not defeat the purpose of the grounding plug!

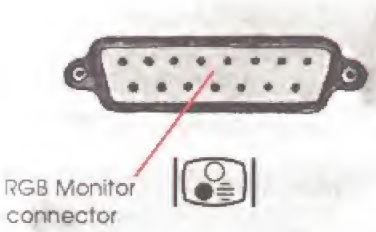


Figure 3

❖ *By the way:* 220/240-volt models of the AppleColor RGB Monitor come with detachable power cords. If you have a 220/240-volt model, first plug the connector end of the cord into the power input unit. It's on the left side of the back panel, marked with the power icon. Then plug the other end into a three-pronged, grounded outlet.

Now you're ready to start the computer and adjust the monitor. If you have not plugged the computer's power cord into the computer, or if you have any peripheral devices to plug in, now is a good time to do so.

Turning the monitor on

To turn your monitor on or off, just press the On-Off button on the right side of the monitor. When you turn on the monitor, you should see the green power indicator light come on. It's on the front of the monitor, in the lower-right corner. If the light does not come on, press the On-Off button again. (See Figure 4.)

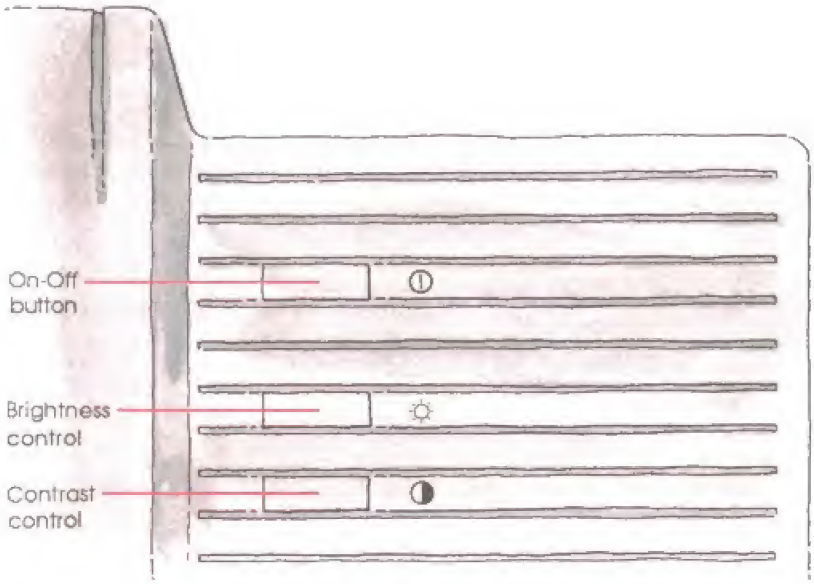


Figure 4

❖ *Note:* If the indicator light still does not come on, check to see if the power cable is plugged in properly. If it is, find out if power to the socket has been interrupted. You can test the socket by plugging something else into it—like a desk lamp or a radio. If the test appliance works but the monitor does not, contact your authorized Apple dealer.

Adjusting the monitor

To adjust the monitor, you need to get something on the screen. You can use any startup disk that came with your computer, but preferably one that uses color. (See your owner's manual if you don't know how to insert a disk into the drive or how to start a program.)

1. Insert the disk into the startup disk drive.
2. Turn the computer on. The Power light and the Disk Use light come on, and the disk drive whirs. In a few moments, some text should appear on the screen. At this point, you can make any of five adjustments to fine-tune the display.

   Three controls—Horizontal Hold, Vertical Hold, and Vertical Size—are on the back panel of the monitor. (See Figure 5.) An icon identifies each control.

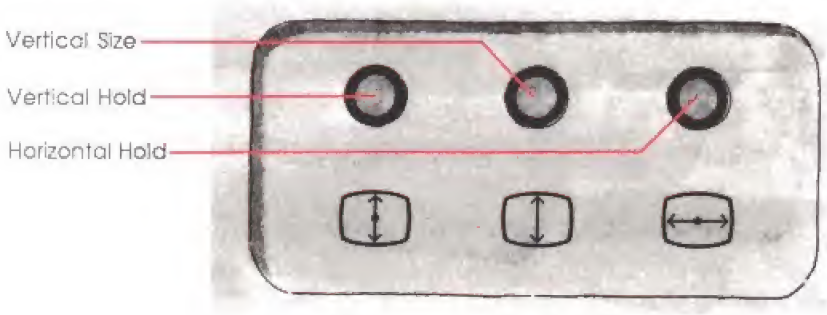


Figure 5

3. If the display is moving vertically, turn the Vertical Hold control until the picture becomes stable.

4. If the display is moving horizontally, turn the Horizontal Hold control until the picture becomes stable.
5. If the display looks stretched so that characters on the top and bottom lines are partially obscured, or if the characters look squashed, turn the Vertical Size control until you have lengthened or shortened the display the desired degree. The recommended setting for Vertical Size is the point at which black areas at the top and bottom of the display just disappear when the screen is displaying graphics information with a colored border.
6. Find the Brightness control on the right side of the monitor. It's between the On-Off button and the Contrast control. (See Figure 4.) To achieve a good balance between screen and character brightness, rotate the Brightness control toward the rear of the monitor to increase brightness; rotate it toward the front to decrease brightness. As you adjust the brightness, you will feel the factory-calibrated detent (or balance) position marking the center of the range on the Brightness control. Use this setting for the best balance between light and dark on your display.
7. Find the Contrast control on the right side of the monitor. It's just below the Brightness control. (See Figure 4.) Rotate the Contrast control toward the rear of the monitor to increase contrast. Rotate it toward the front to decrease contrast. Set the contrast to a comfortable level.

❖ *Note:* If you can't solve a problem with the monitor controls, take the monitor to your authorized Apple dealer.

Go ahead and position the computer and monitor as you prefer for your work. Some models of Apple computers are large enough to let you place the AppleColor RGB Monitor directly on top of the computer's case. Try it and see if you like it there. If not, you can place the monitor to the side.

Changing the viewing angle

After setting up your monitor, if you find the viewing angle too low, you can raise it by using the Height-Adjustment bar on the bottom of the monitor. The Height-Adjustment bar raises the front of the monitor one inch off the computer or desk surface.

Follow these steps to raise the viewing angle:

1. Gently turn the monitor on its side.
2. Locate the Height-Adjustment bar. It's the bar about ten inches long and an inch wide that's positioned parallel to the bottom-front edge of the monitor. (See Figure 6.)

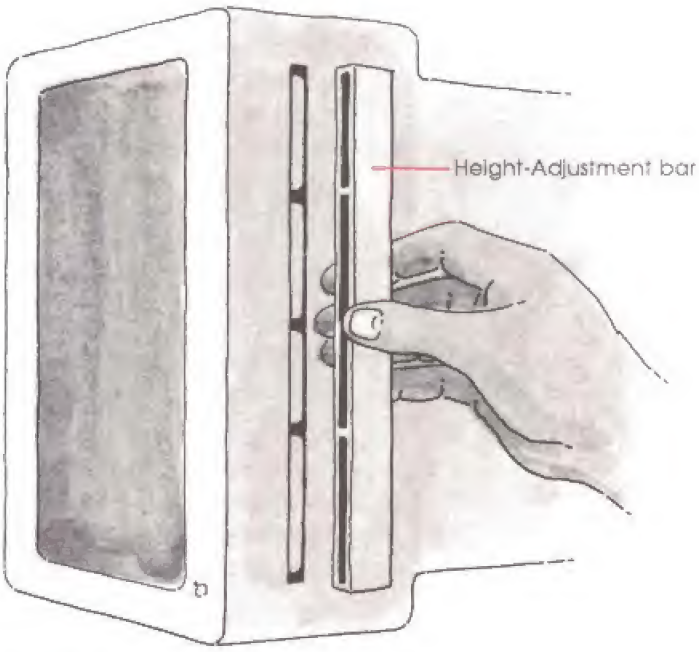


Figure 6

3. Pull the bar off the bottom of the monitor and turn it so that the slots on the flat side of the bar face toward the back of the monitor and the slots on the edge of the bar line up with the plastic guides on the bottom of the monitor.
4. Push the bar onto the plastic guides.
5. Gently return the monitor to its upright position.

Using and caring for your monitor

This section gives you some guidelines on how to use your monitor efficiently and how to care for it.

Working tips

Here are some tips you should keep in mind when using your AppleColor RGB Monitor:

- The computer and monitor are not made of cast iron, but they aren't made of antique porcelain, either. Use common sense when handling parts of the system. Gentle and firm will do the job.
- When you switch between 40-column and 80-column text formats, you may need to adjust the contrast for better visibility.
- An active monitor generates signals that can interfere with a disk drive's ability to read a disk. If your system seems to have trouble reading disks, move the disk drive (or drives) away from the monitor.
- If possible, try to position the monitor away from sources of glare, like windows or bright lights.
- Staring at anything for a long time can cause eyestrain. Make it a rule to focus on a distant object occasionally to relax your eye muscles.

Things to avoid

Here is a list of some things that could damage your monitor. Some of them are obvious, some not.

- Don't leave your Apple computer system exposed to direct sunlight. The heat can damage the case and even the electronics.
- Don't set cups, glasses, or any vessel containing liquids on or beside the computer, monitor, or peripheral devices. Spilling a liquid into any electronic instrument is a sure way to damage the circuitry.

- Don't place objects—books, magazines, papers, hats, clothing, and so on—on top of the computer or monitor. Such objects can block the cooling vents. The extra weight of objects may also tip over the monitor. Naturally, do not lean on any element of your computer system.
- Don't leave the monitor on after you turn off the computer. This is more a matter of electrical safety and common sense than anything else.

❖ *By the way:* Your monitor probably feels warm to the touch when it's on. Like a television set, the electronics and picture tube give off a certain amount of heat, so warmth is not usually a cause for alarm.

Protecting your monitor from theft

The small rectangular opening in the bottom-right corner on the back of the monitor is for connecting a security lock. It lets you attach a narrow, flexible cable that you can use to secure your monitor (and the rest of your Apple computer system, too) to prevent theft. (See Figure 7.) Security locks are available from your authorized Apple dealer.

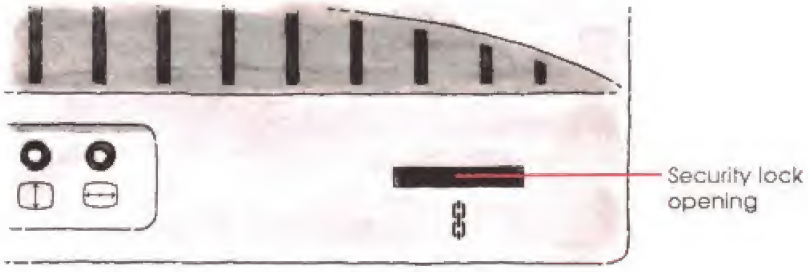


Figure 7

Cleaning the monitor

Follow these suggestions if you need to clean your monitor:

- Clean the cabinet with a *damp* (not wet) lint-free cloth.
- Don't use aerosol sprays, solvents, or abrasives that might damage the cabinet finish.

- If the screen gets dirty, apply a household glass cleaner to a clean cloth or paper towel and wipe the screen. Don't spray glass cleaner directly onto the screen. It could run down inside the case and damage electrical circuits.

Service and support

To help you get the best performance from your system, Apple Computer, Inc. has established a worldwide network of full-support authorized Apple dealers. If you need answers to technical questions or information about product updates, your authorized Apple dealer can help you. Apple's Technical Support organization backs each dealership and international technical support group via AppleLink™, a state-of-the-art on-line electronic information service, to ensure prompt, reliable assistance.

Your dealer has the latest information on new hardware and software products as well as product updates. If you wish to upgrade your system, your dealer can help you select compatible components.

If your product requires service, your local authorized Apple dealer is trained and ready to support you. Apple provides factory-quality parts and the latest available diagnostic equipment to the more than three thousand authorized Apple service centers throughout the world. Apple guarantees parts and warranty labor. (Regulations in each country determine the length of warranty. Some restrictions may apply, depending on the country of original purchase.)

If for some reason you cannot return to the authorized dealer from whom you purchased your system, go to the nearest service location. For the location nearest you, in the United States, call (800) 538-9696; in Canada, call (800) 268-7796 or (800) 268-7637. For locations in other countries, either call the Apple headquarters in your country or write to

Apple Computer, Inc.
Attn: Customer Relations
20525 Mariani Avenue
Cupertino, CA 95014
USA

Apple also offers service options designed to meet your needs. They range from carry-in contracts like the Apple*Care*® Service Agreement (U.S., Canada, and Australia only), which extends full warranty coverage up to three years, to self-service plans designed to allow large installations to repair their own equipment. Whether you use your computer at home, in the office, or at school, Apple has a low-cost service plan for you. For details, please visit your authorized Apple dealer.

Appendix: AppleColor RGB Monitor specifications

Picture tube	12-inch diagonal (11.5-inch viewable) .37 mm tri-dot-pitch high-contrast (black matrix)
Input signals	Red, green, blue video signals composited with negative going sync 1.0 ± .5 volts peak to peak, internally terminated with 75 ohm resistors. Composite sync negative going 4.0 ± 1.0 volts peak to peak, internally terminated with 2000 ohm resistor.
User controls	Power switch (right side) Contrast (right side) Brightness, with detent reference (right side) Vertical Size (back panel) Vertical Hold (back panel) Horizontal Hold (back panel)
Scanning frequencies	

	NTSC/60	**NTSC/50–PAL/50**
Horizontal	15.734 kHz	15.659 kHz
Vertical	60 Hz	50 Hz

Video bandwidth	Flat within 1.5 DB to 6.5 MHz. Less than 3 DB down at 8 MHz.
Resolution	640 H by 200 V pixels when used with the Apple IIGS
Active video display area	Adjusted at the factory to produce an active video area of 200 mm horizontal by 150 mm vertical. Remainder of display surface area is used for border display zone.
Weight	12.5 kg (27.56 lb) maximum
Power requirements	Less than 65 watts under normal viewing conditions. 90 watts maximum.

Input voltage

Model	Operating range	Power frequency
120 v	108–132	50–60 Hz
220 v	198–242	50–60 Hz
240 v	216–264	50–60 Hz

Operating ambient temperature	10°C to 40°C (50°F to 104°F)
Operating humidity	90% maximum
Operating altitude	10,000 feet maximum
Fuse protection	The monitor contains internal power line fuse protection. This fuse should be replaced with the same type by a qualified service technician.

Input signal connector pin assignments

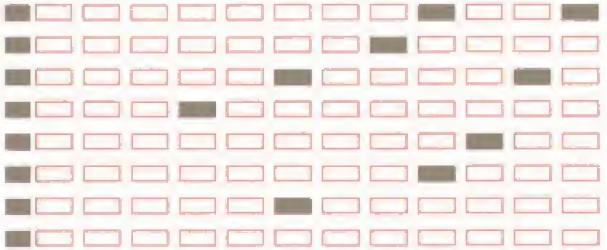
Pin	Function
1	Red video ground
2	Red composite video
3	Composite sync
4	(not used)
5	Green composite video
6	Green video ground
7	(not used)
8	(not used)
9	Blue composite video
10	(not used)
11	(not used)
12	(not used)
13	Blue video ground
14	(not used)
15	(not used)
Shell	Shield ground

Tell Apple About Your AppleColor™ RGB Monitor

- Please contact your authorized Apple dealer when you have questions about your Apple products. Dealers are trained by Apple Computer and are given the resources to handle service and support for all Apple products. If you need the name of an authorized Apple dealer in your area, call toll-free: 800-538-9696.

- Would you like to tell Apple what you think about this product? After you have had an opportunity to use this product, we would like to hear from you. You can help us to improve our products by responding to the questionnaire below and marking the appropriate boxes on the card at the right with a **#2 lead pencil**. If you have more than one response to a question, mark all the boxes that apply. Please detach the card and mail it to Apple. Include additional pages of comments if you wish.

1. How would you rate the AppleColor RGB Monitor overall? (**1**=poor . . . **6**=excellent)
2. Where did you purchase your AppleColor RGB Monitor? (**1**=dealer, **2**=Corporate Buy, **3**=Teacher Buy, **4**=department store, **5**=other)
3. Did you purchase your AppleColor RGB Monitor and computer at the same time? (**1**=no, **2**=yes)
4. Which computer are you using with your AppleColor RGB Monitor? (**1**=Apple IIGS, **2**=Apple IIGS Upgrade)
5. Was color software availability an important factor in your purchase of the AppleColor RGB Monitor? (**1**=no, **2**=yes)
6. Did you purchase color software and your AppleColor RGB Monitor at the same time? (**1**=no, **2**=yes)
7. How easy was your AppleColor RGB Monitor to set up? (**1**=difficult . . . **6**=very easy)
8. How easy was it to adjust the display on your AppleColor RGB Monitor? (**1**=difficult . . . **6**=very easy)
9. Did you use the *AppleColor RGB Monitor Owner's Guide* to help you set up? (**1**=no, **2**=yes)
10. Did you use the *AppleColor RGB Monitor Owner's Guide* to help you adjust the display? (**1**=no, **2**=yes)
11. How would you rate your satisfaction with the *AppleColor RGB Monitor Owner's Guide?* (**1**=low . . . **6**=high)
12. How easy was the *AppleColor RGB Monitor Owner's Guide* to read and understand? (**1**=difficult . . . **6**=very easy)
13. Please describe any errors or inconsistencies you may have encountered with the materials. (Page numbers would be helpful.)
14. What suggestions do you have for improving the AppleColor RGB Monitor?



Please Do Not Mark Above This Line

1. 1 2 3 4 5 6
2. 1 2 3 4 5
3. 1 2
4. 1 2
5. 1 2
6. 1 2
7. 1 2 3 4 5 6
8. 1 2 3 4 5 6
9. 1 2
10. 1 2
11. 1 2 3 4 5 6
12. 1 2 3 4 5 6
13. _____
14. _____

Thanks for your time and effort.

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